

Instrumentation and Equipment

USSR

UDC 621.793:620.17.05

KOLOMYTSEV, P. T., IVANOV, YE. G., KALAPIROV, P. D., and STREKOPYTOV, S. A.
Air Force Engineering Academy imeni Zhukovskiy

"Installation for the Investigation of the Plasticity of Diffusion Coatings
Applied on Heat-Resistant Alloys"

Moscow, Zavodskaya Laboratoriya, No 5, 1973, pp 618-619

Abstract: The Air Force Engineering Academy imeni Zhukovskiy has developed a unit on which specimens with coatings are tested for bending; after this, the angle of rotation of the section is determined and from its degree the relative elongation at the moment of first crack development is calculated. The plasticity is characterized by the relative elongation $\epsilon = b \gamma / 2l$, where b and l are thickness and length of the specimen and γ = angle of rotation at first crack development. The unit is used for the investigation of the plasticity of protective coatings produced by calorization in a mix of ferroaluminum and ammonium chloride and by chromocalorization in vacuum on specimens of KhN70VMFTYu and KhN55VMTFKYu alloys. As a result of chromocalorization and calorization, layers with maximum Al-contents of 14-24 and 30-38%, respectively, develop. It is shown that on 1/2

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KOLOMYTSEV, P. T., et al., Zavodskaya Laboratoriya, No 5, 1973, pp 618-619

specimens of KhN70VMFTYu alloy the increase of Al-content in coatings reduces its plasticity at room temperature. The plasticity of diffusion coatings on chromocalorized specimens of KhN55VMTFKYu alloy with 24%Al is considerably higher than on calorized specimens with maximum 38%Al in diffusion layers. Two figures.

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Acc. Nr:

AP0047247

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Ref. Code: UR0504

PRIMARY SOURCE: Terapevticheskiy Arkhiv, 1970, Vol 42, Nr 1 ,
pp 89-92

CHANGES OF THE FUNCTIONAL ACTIVITY
OF LEUCOCYTES IN PNEUMONIA

YE. I. Ivanov

Summary

The author studied the metabolic activity of leucocytes of the peripheral blood in 50 patients with pneumonia. The method of study included the determination of alkaline and acid phosphatases, peroxidase and glycogen in mature neutrophil leucocytes. The results obtained testify to a considerable increase of the activity of alkaline and acid phosphatase in leucocytes. The activity of the oxidative enzyme of peroxidase dropped to a considerable extent. The amount of intracellular glycogen was seen to be significantly high. The extent of the changes of the metabolic activity of leucocytes was determined by the nature of the pathological process.

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IVANOV, Ye. M., KOSTIN, V. I.

"Dynamic Calibration of Tensometric Apparatus with Potentiometric Connection of the Sensor"

Tr. Kuybyshev. Aviats, In-t [Works of Kuybyshev Institute of Aviation], 1972, No 51, pp 193-199 (Translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 4, 1973, Abstract No 4.32.442).

Translation: It is noted that under conditions of mass tensometric testing, the method of dynamic calibration (C) of tensometric apparatus using an audio-frequency generator has significant advantages over dynamic calibration using a calibration beam, since: the time required for preparation, performance and analysis of C is greatly reduced; expensive special devices are not needed for C; the accuracy and reliability of C are increased; C is performed simultaneously with the experiments and at the required frequency; it is no longer necessary to consider the resistance of the potentiometric circuit when interpreting the results of C; the electrical circuit for C can be constructed so that the numerical value of the assigned generator voltage is equal to the numerical value of the assigned "fictitious" deformation. 2 figures.

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1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THE STATE OF THE BIOGENIC AMINO METABOLISM IN PATIENTS WITH ACUTE
LEUCOSIS -U-
AUTHOR-(03)-KAMYSHNIKOV, V.S., IVANOV, YE. P. BANDARIN, V.A.
COUNTRY OF INFO--USSR
SOURCE--ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 3, PP 48-51
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--AMINO ACID METABOLISM, NORADRENALINE, ADRENALINE, SEROTONIN,
WHOLE BLOOD, BLOOD DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1982/1551 STEP NO--UR/0477/70/000/003/0048/0051
CIRC ACCESSION NU--AP0052755
UNCLASSIFIED

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CIRC ACCESSION NO--AP0052755

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KATECHOLAMIN, TIRAMIN AND SEROTIN METABOLISM HAS BEEN INVESTIGATED IN PATIENTS WITH ACUTE LEUCOSIS IN THE DYNAMICS OF THE DISEASE. AT THE LEVEL OF EXPRESSIVE CLINICAL INDICATIONS A DECREASED EXCRETION OF NORADRENALINUM, OF ADRENALINUM, VANILIN ALMOND AND 5, OXYINDOL, ACETIC ACIDS, A DECREASE OF THE SEROTONIN LEVEL IN THE WHOLE BLOOD AND AN INCREASE OF THE TIROSIN CONTENT IN THE PLASMA HAVE BEEN MARKED. AN EXCRETION OF TIRAMIN, DIOXYPHENILALANINUM AND DOPHAMINE IN THE PATIENTS WHO HAVE BEEN IN THE STATE OF CLINICO HAEMOTOLOGIC REMISSION HAS NOT DIFFERED FROM THE USUAL NORM. IN THE COURSE OF TREATMENT, ENDED BY REMISSION A TENDENCY TOWARDS NORMALIZING THE KATECHOLAMINOUS AND SEROTINOUS METABOLISM HAS BEEN FOUND.

UNCLASSIFIED

Microelectronics

USSR

UDC 621.382.8

IVANOV, Ye. S.

"A Readout Amplifier Based on Logic Microcircuits"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 5, Sep/Oct, pp 50-51

Abstract: The author considers the problem of expanding the functional possibilities of integrated logic circuits. The analysis is based on the example of an integrated functional logic element in the readout amplifier of a ferrite-core memory. The amplifier is a two-stage circuit based on two NOR elements (integrated hybrid microcircuits) connected in series. The first stage operates in the small-signal amplification mode, and the second operates in the saturation (switching) mode. The pulses amplified by the first stage are sent to the second stage which gives the final shape to the readout pulses. The pulses are sent to the input of the amplifier either directly from the readout windings of the storage unit, or through a transformer. The signals from the output of the amplifier are sent to other functional elements such as the memory register. The device works on input signals of 150-250 mV with duration of 0.2-0.4 μ s. Two figures, bibliography of three titles.

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Refractory Materials

USSR

UDC: 666.763.4

IVANOV, Ye. V., DOLGINA, G. Z., BUNINA, V. P., ABBAKUMOV, V. G., TARAKANCHIKOV, G. A. Ukrainian Scientific-Research Institute of Refractories, All-Union Institute of Refractories
"Production of Magnesium Oxide From Sea Water and Dolomites"

Moscow, Ogneupory, No 12, 1973, pp 25-30.

Abstract: A technological process has been developed for the production of synthetic magnesium oxide (97% MgO) by a hydrate plan from Black Sea water and dolomites. The two-stage process of treatment of magnesium hydroxide paste produced from the sea water and dolomites, consisting of drying-briquetting-roasting or dehydration-briquetting-roasting, produces dense powders for the production of refractory products. A number of steps have been taken to assure achievement of high roasting temperatures of briquettes in the 22-meter-long rotating furnace, allowing the fraction of primary air to be regulated and its mixing with the fuel to be improved. Roasting is performed at maximum temperatures of 1750-1770° C, with the quantity of primary air injected reaching 62% of the theoretically necessary quantity.

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AP0037716

PRIMARY SOURCE: FBIS Daily Report, Soviet Union, 6 March 1970, Vol III, Nr 45,
p D 1

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MODEL OF UNSTABLE PLASMA--Moscow March 3 TASS--Discoveries by Soviet scientists Yuri Ivanov, Boris Kadomtsev, Arthur Nedospasov, and Solomon Ryukin make it possible to simulate and study unstable plasma of thermonuclear processes. Today, the Soviet Committee for Inventions and Discoveries entered this discovery in its register. Experimenting with samples of germanium semiconductor, the authors discovered a phenomenon called screw-type plasma instability and explained it. A possibility appeared to substitute huge and very expensive installations, simulating plasma of thermonuclear synthesis by simple samples of the semiconductor and to test on them different methods of dampening of plasma instability. The discovery also made it possible to design a series of original instruments in which the instability is used for the generation and intensification of electric oscillations. (Moscow TASS International English 2135 GMT 3 Mar 70 L)

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LYANE, R., IVANOV, Yu.

"Development of Vortex Flow in a Cylindrical Chamber With ^{Un}restricted Outlet Section"

Izvestiya Akademii Nauk Estonskoy SSR, Fizika, Matematika, Vol. 19, No. 4, 1970, pp. 456-462

Abstract: A vortex flow in a chamber is characterized by a complex aerodynamic structure, requiring experimental study. The best studied examples to date are models of cyclone-vortex combustion chambers with relative length $L_k/D_k < 1.5-2.0$. However, in shorter chambers clarification of a number of regularities in the development of vortex flow is complicated by the imposition of intake and outlet conditions. The possibility of extending the established regularities to chambers of greater length used in practice is debatable. The present work was performed in order to establish the specifics of the development of vortex flow in a chamber without a diaphragm at the outlet section with $L_k/D_k = 8.5$. The

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LYANE, R., IVANOV, Yu., Izvestiya Akademii Nauk Estonskoy SSR, Fizika, Matematika, Vol. 19, No. 4, 1970, pp. 456-462

results produced can be used to clarify the regularities involved in the development of vortex flow in short chambers as well. It is concluded that movement of the vortices along the chamber leads to a thickening of the stream, an increase in the tangential velocity component, and static pressure along the circular chamber. The influence of the surrounding medium at the chamber exit extends to a limited area $L/D_k \approx 2$ near the outlet section. The greatest change in stream momentum occurs in the initial section of the chamber at a distance of up to one diameter from the intake edge of the nozzle.

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USSR

UDC 533.601.312.532.526

IVANOV, V. YA., and KOVALENKO, V. M., Institute of Theoretical and Applied Mechanics, Siberian Department, USSR Academy of Sciences, Novosibirsk

"Effect of a Weak Viscous Interaction on Wing Profile Drag"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk; Issue 1, No 3, 1973, pp 45-51

Abstract: As a result of decelerating action of the wall, lines of flow in the boundary layer are drawn away from the flow-around surface, leading to alteration of pressure distribution on the surface (the boundary layer, determined by external flow, exerts a counteraction on the flow, the so-called viscous interaction effect). It is of great practical interest to estimate the effect of this interaction on a particular wing profile; also, the effect of position of the transition zone, and its extent, on components of supplemental profile drag.

Calculations showed that in the case of a mixed boundary layer, there exist ranges of basic flow parameters in which the interaction may have no effect at all on the wave drag or the total wing profile drag; while in other cases, these may be reduced. The maximum of such reduction is found in the case where the transition point is close to the median of the profile, and its magnitude depends on the flow parameters. Extent of the transition region has practically no effect on supplemental wave drag within the region.

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IVANOV, V. YA., and KOVALENKO, V. M., *Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk*; Issue 1, No 3, 1973, pp 45-51

It is concluded that supplemental wing profile drag resulting from viscous interaction, as far as important practical cases are concerned, is an important factor which must be considered in design. Graphs illustrating the calculations are included in the paper.

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USSR

UDC 532.531.07:532.542.4

IVANOV, Yu. A.

"A Diffusion Method of Turbulence Measurement"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 2, 1972, pp 54-59

Abstract: Some problems pertaining to the procedure of turbulence measurement by a diffusion method, particularly by the method of helium diffusion, are presented. It is shown that the result of measurement of the value of the mean-square deviation σ at a moderate intensity (about 0.05) of the stream turbulence ϵ' is scarcely affected at all by such factors as the rate of gas sampling from the stream, the density difference between the substance of the stream and that of the admixture, and the molecular diffusion of the admixture. The influence of the rate of admixture leakage from the source can be eliminated by means of appropriate selection of the conditions of injection of the admixture into the stream; distortions introduced into the result of the determination of σ by the influence of the body dimensions of the source and the gas-sampling tube can be taken into account by virtue of a proposed formula. 4 figures. 6 references.

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USSR

UDC: 548.736.4

BELOKONEVA, Ye. L., ~~IVANOV, Yu. A.~~, SIMONOV, N. A., BELOV,
N. V., Moscow State University imeni M. V. Lomonosov

"Crystal Structure of Cadmium Orthogermanate $\text{Cd}_2[\text{GeO}_4]$ "

Moscow, Kristallografiya, Vol 17, No 1, Jan/Feb 72, pp 217-219

Abstract: The authors determine the crystal structure of synthetic germanate of cadmium. From the lattice parameters and interplane distances, it is established that the compound is an analog of $\gamma\text{-Ca}_2\text{SiO}_4$. The assumed formula of Cd_2GeO_4 was later confirmed by chemical analysis. The interatomic distances for cadmium orthogermanate are calculated and the coordinates of the basis atoms are compared for calcium orthosilicate and cadmium orthogermanate. The results are tabulated. It is found that an olivine-like band is repeated in the cadmium orthogermanate crystal structure. Each oxygen atom is simultaneously the vertex of 3 Cd-octahedra and one Ge-tetrahedron, and 3 of the 6 edges of the tetrahedron are shared by Cd-octahedra. One figure, four tables, bibliography of two titles.

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IVANOV, Yu.I.

"Harmonic Axisymmetric Potentials of Liouville Type"

Alma-Ata, Vestnik Akademii Nauk Kazakhskoy SSR, No 12 (308), Dec 70, pp 48-50

Abstract: The problem is formulated for finding a complete set of classes of axisymmetric potentials for which the equations of motion of the particle in one of the curvilinear coordinate systems, after excluding the cyclical variable, assume the Liouville form and which in the respective coordinate system identically satisfy the three-dimensional Laplace equation. The problem is solved for the case of prolate spheroidal coordinates related to certain Cartesian relationships. The results are summarized for the overall form of the harmonic axisymmetric potential and the interpretation of the bilinear potential and for the distribution law of linear density corresponding to the logarithmic potential. Both prolate and oblate spheroidal coordinates are discussed using the appropriate formulas involved, as are the cases of spherical coordinates, paraboloidal coordinates, paraboloidal coordinates, and cylindrical coordinates.

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USSR

IVANOV, Yu. I., (Physical Technical Institute imeni A. F. Ioffe, Academy of Sciences USSR)

"Experimental Discovery of Kinetic Dia- and Paramagnetism"

Moscow, Pis'ma v Zhurnal Eksperimental'noi i Teoreticheskoy Fiziki (Letters to the Journal of Experimental and Theoretical Physics), Vol 12, No 1, 5 July 1970, pp 9-11

Abstract: An azimuthal Nernst or Hall current in a cylinder that has a radial temperature or electric field gradient can increase or decrease an externally applied axial magnetic field inside the cylinder. The author investigates the effect when a radial electric field is applied. The test element was a Corbino disk of indium antimonide, which has high current carrier mobility. The temperature was maintained at 77°K, with the disk placed axially in a constant magnetic field. Square-wave current pulses of 3 μ sec were passed radially through the chamber.

For enhancement of the magnetic field in the paramagnetic case the carriers must flow toward the center of the disk and the electrical field must be directed
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IVANOV, YU. L., Pis'ma v Zhurnal Eksperimental'noi i Teoreticheskoy Fiziki
(Letters to the Journal of Experimental and Theoretical Physics), Vol 12, No 1,
5 July 1970, pp 9-11

outward from the center. For the diamagnetic case the electrical field must be reversed. Equations are derived for the change in magnetic field strength for the two cases. Curves are plotted to show that the change in the magnetic field strength is linearly dependent on the initial field and on the current through the disk. Results for the diamagnetic and paramagnetic effects are similar.

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1/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF A HEATING ELECTRICAL FIELD ON THE EDGE RADIATION OF
GALLIUM ARSENIDE -U-
AUTHOR-(02)-IVANOV, YU.L., RISBAYEV, T.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. PCL...OV, 1970, 4(2), 265-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--GALLIUM ARSENIDE SEMICONDUCTOR, PHOTOLUMINESCENCE, ELECTRIC
FIELD, RADIATION INTENSITY, EXCITON, ELECTRON ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1988/0112 STEP NO--UR/0449/70/004/002/3265/3268
CIRC ACCESSION NO--AP0105198
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105198

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EDGE PHOTOLUMINESCENCE OF N
TYPE GAAS WITH CARRIER CONC. OF 10^{15} - 10^{16} CM⁻³ WAS
STUDIED AT 77DEGREEK WITH APPLIED ELEC. FIELD STRENGTH SMALLER THAN 10^5
V-CM. THE APPLIED ELEC. FIELD DOES NOT CHANGE THE SHAPE OF THE
RADIATION BAND; HOWEVER, IT DECREASES THE RADIATION INTENSITY. THIS
DECREASE MAY BE EXPLAINED AS DUE TO A DECREASE IN THE CONC. OF
RADIATION CENTERS. EXCITONS ARE SUPPOSED TO BE SUCH CENTERS, AND THE
DEPENDENCE OF EXCITON CONC. ON THE ELEC. FIELD STRENGTH IS ANALYZED.
THE ANAL. LEADS TO THE FOLLOWING CONCLUSIONS: (1) A PERCEPTIBLE INCREASE
IN ELECTRON ENERGY AT 77DEGREEK STARTS AT FIELD STRENGTH GREATER THAN
 300 V-CM AND (2) THE ELECTRON ACQUIRES THE ENERGY NECESSARY FOR EXCITON
IONIZATION IN THE LENGTH OF THE FREE PATH. FACILITY: FIZ. TEKH.
INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 624.438.038.8

VASIL'YEV, D. P., IVANOV, Yu. M.

"Design of Two-Nozzle Centrifugal Gas Turbine Injectors"

Tr. Tsentr. N.-i. i Konstrukt. In-ta Toplivn. Apparatury Avtotrakt. i Statsioynar. Dvigatelay [Works of Central Scientific Research and Design Institute for Fuel Apparatus for Motor Vehicle and Stationary Motors], No 52, 1972, pp 3-8, (Translated from Referativnyy Zhurnal, Turbostroyeniye, No 3, 1972, Abstract No 8.49.180).

Translation: A method is presented for design of two-nozzle injectors, based on experimental data. The dependences suggested allow calculation of the flow characteristics of the channels, maximum pressure before the injector and the relationship of pressures in the channels to produce satisfactory spray quality in the external nozzle connection mode for injectors spraying kerosene or fuels with similar properties. 5 Figures; 3 Biblio. Refs.

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USSR

UDC 620.193.01.669.295

TOMASHOV, N. D., RUSKOL, YU. S., AYUYAN, G. A., IVANOV, YU. M., PLAVNEK, G. M., and NAZAROVA, R. I., Academy of Sciences USSR, Institute of Physical Chemistry

"The Effect of Alloying Elements on the Corrosion Behavior of Titanium"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp 10-15

Abstract: The method of potentiostatic polarization curves, corrosion tests, and electron diffraction investigations were applied to investigate the corrosion and electrochemical properties of alloys based on titanium iodide with small additions of chromium, molybdenum, niobium, aluminum, manganese, and tin in a 40% H_2SO_4 solution at 80° under natural aeration, conditions.

The structure of the anodic oxide films developing on these alloys was analyzed. The passivation and full passivation potentials were found to be practically independent of the nature and concentration of the alloying addition, whereas the critical passivation currents and the currents in the passive zone varied significantly. Aluminum impairs the corrosion properties of titanium both in the active and passive states. Manganese and chromium increase the rate of corrosion in the active state and decrease it in the passive state. Niobium, on the other hand, reduces titanium corrosion rate in the active state and increases it in the passive state. One figure, three tables, thirteen bibliographic references.

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USSR

UDC 620.193.196:669.295

TOMASHOV, N. D., MATVEYEVA, T. V. and IVANOV, YU. M., Institute of Physical Chemistry, Academy of Sciences USSR

"Effect of Ruthenium on the Corrosion Behavior of Titanium"

Moscow, Zashchita metallov, Vol 8, No 2, Mar-Apr 72, pp 174-177

Abstract: This paper deals with the effect of ruthenium on the passivation and corrosion resistance of titanium as compared to the passivation effectiveness of palladium. The marked difference between the corrosion behavior of Ti alloys with Ru and Pd is explained by the difference of hydrogenation and cathodic polarization. Added in small amounts to Ti, Ru hydrogenates to a lesser degree than Pd and is therefore a more effective cathode capable of converting Ti to the passive state. It is essential that unlike Pd, even minimal Ru additions (0.01 - 0.05%), while insufficient to

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TOMASHOV, N. D., et al, Zashchita metallov, Vol 8, No 2, Mar-Apr 72
pp 174-177

provide complete passivation of the alloy, will not increase its corrosion rate as compared to pure Ti. At higher contents (above 0.1%) the difference in the cathodic effects of Ru and Pd levels off. It appears that Ti alloys inoculated with very small amounts of Ru (0.05 - 0.1%) may be of practical interest under certain corrosion conditions (4 illustr., 12 biblio. ref)

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USSR

UDC 669.018.8

TOMASHOV, N. D., RUSKOL, YU. S., ~~IVANOV, YU. M.~~, and FLAVNIK, G. M.,
Institute of Physical Chemistry, Academy of Sciences USSR

"The Effect of Phase Composition of Ti-15% Mo alloys on Its Corrosion Behavior
in the Active State"

Moscow, Zashchita Metallov, Vol 7, No 5, 1971, pp 507-513

Abstract: The corrosion behavior of Ti alloys with 15.1% Mo with a β structure was studied. The alloy was prepared from titanium iodide with the addition of molybdenum, first subjecting it to crucibleless electron-radiation zone smelting. The smelting was carried out in an arc furnace with non-consumed tungsten electrodes in the holes of a water cooled copper tray in an atmosphere of spectrally pure helium. At the same time a control with titanium iodide was run in one of the holes. If the hardness of the titanium as a result of smelting was increased due to gas adsorption much more than 10 units on the Vickers scale, the melt was discarded. The 50 g ingots obtained were forged at 900° into rods and sheets. Finally, after removing the scale and surfaces defects, it was rolled into strips.

Thermal processing of the samples was carried out by heating evacuated and sealed ampules in a muffle furnace for 30 min. at 950°. They were then

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TOMASHOV, D. N., et al., Zashchita Metallov, Vol 7, No 5, 1971, pp 507-513

transferred to a water bath and fast mixing the ampule was broken. The samples prepared in this fashion had a Vickers hardness H_v of 10/30 - 190.

Before the electrochemical studies, the samples were cleaned with sandpaper, degreased with acetone, washed with distilled water, and dried in a dessicator for not more than 1 day over CaCl_2 . The tests were carried out with natural aeration in 40% sulfuric acid solutions at different temperatures.

Since samples with a β and $\beta + \omega$ structure with a spontaneous natural air oxide film are not activated at temperatures below 85° , and with a $\beta + \alpha$ structure below 70° , a preliminary activation (1 min. in the same acid) of the alloys with a β and $\beta + \omega$ structure at 90° and with a $\beta + \alpha$ structure at 75° was carried out. Without activation the melt remained in the passive state, having a positive stationary potential (e.g., 0.1 v at 80° for alloys β and $\beta + \omega$) and a lower velocity of corrosion ($10.09 \text{ g/m}^2 \cdot \text{hr}$). After activation the alloy was steadily dissolved in an active state with significant velocity.

A significant effect is shown by the phase composition of Ti - 15% Mo alloy on its corrosion in the activated condition. A much higher corrosion resistance is observed with the single phase β alloy, the least with the two phase $\beta + \alpha$ alloy. This was determined by the much higher resistance

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of the β -phase containing, in comparison to the α and ω phases, a higher Mo content. Thus, for maximum increase in the resistance of titanium alloys, alloys with a β -stabilizer (e.g., Mo, Nb, V) it follows that it is possible to apply a thermal processing which will promote the conservation of a single phase β state.

It was also shown that a significant deterioration in the corrosion properties of Ti-Mo alloy occurred in the presence of the metastable ω -phase. In the diffusion of two phase $\beta + \alpha$ and $\beta + \omega$ alloys in the activated state in the region of a potential of 0.260-0.140 v, a concentrated Mo phase accumulates on the surface.

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UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--RECIRCULATION FLAME FURNACES WITH TWO STAGE FUEL FIRING AND
PROGRAMMED HEAT CONTROL -U-

AUTHOR--PUGOVKIN, A.U., ~~IVANOV, YU.P.~~, FILIPPOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KUZNECHNO-SHTAMPOVOCHNOYE PROIZVODSTVO, NO 2, 1970, PP
30-33

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL INGOT, METAL HEAT TREATMENT, AUTOMATIC CONTROL SYSTEM,
METALLURGIC FURNACE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0312

STEP NO--UR/0182/70/000/002/0030/0033

CIRC ACCESSION NO--AP0100800

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100800

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. BECAUSE EXISTING SYSTEMS OF FLAME FURNACES DO NOT PROVIDE THE REQUIRED ACCURACY AND STABILITY OF HEATING OF METAL INGOTS, METHODS OF CONTROL HAVE BEEN DEVELOPED FOR MAINTAINING A SPECIFIED TEMPERATURE, USUALLY EQUAL TO THE FINAL TEMPERATURE OF THE HEATED METAL, AT ONLY THOSE PARTS OF THE OPERATING CHAMBER IN WHICH THE HEATING IS MOST INTENSE. THEN, THE CONTROL OF THE PROCESS REDUCES TO RAISING THE TEMPERATURE OF THE REMAINING PARTS OF THE OVEN TO THE GIVEN TEMPERATURE. THIS ARTICLE EXPLAINS SUCH A SYSTEM. PRELIMINARY CALCULATIONS CONDUCTED BY THE AUTHORS INDICATE THAT, OTHER CONDITIONS BEING EQUAL, THE DROP IN TEMPERATURE IN THE OPERATING SPACE OF THE OVEN MAY VARY AS A FUNCTION OF THE SUPPLY OF THE HEATING MEDIUM AND OF THE ORGANIZATION OF THE GAS FLOW INSIDE THE SPACE. THE SYSTEM INCLUDES THE FOLLOWING: AUTOMATIC PROGRAMMED CONTROL AND TEMPERATURE REGULATION IN THE OVEN'S OPERATING SPACE; AUTOMATIC CONTROL AND REGULATION OF THE GAS PRESSURES IN THE OPERATING SPACE; AUTOMATIC CONTROL AND REGULATION OF THE AIR PRESSURE FOR GAS RECIRCULATION; CONTROL OF FUEL EXPENDITURE; CONTROL OF RAREFACTION IN THE HORIZONTAL FLUE; GAS SHUTOFF WHEN THE PRESSURE OF GAS OR AIR FALLS IN RECIRCULATION. A CROSS SECTIONAL DRAWING OF THE FURNACE AND THE ELECTRICAL CIRCUIT FOR AUTOMATIC CONTROL PROGRAMMING ARE SUPPLIED WITH THE TEXT. RESULTS OF RESEARCH MADE ON RECIRCULATION OVENS WITH REMOVABLE HEARTH FOR HEATING INGOTS BEFORE PRESSING ARE ALSO PROVIDED.

UNCLASSIFIED

USSR

UDC 621.357.1.035(038.8)

VORONIN, T. I., IVANOV, YU. S., and REDIKUL'TSEV, YU. V., All-Union Scientific Research Biotechnological Institute

"Reactor Electrolyzer"

USSR Patent Certificate No 312869, Filed 4 Apr 70, Published 22 Nov 71 (from Referativnyy Zhurnal -- Khimiya, Svochnyy Tom, No 23(II), 1972, Abstract No 231222P)

Translation: A reactor-electrolyzer is patented, which can be used, for example, for the cultivation of the water-oxidizing bacteria. The electrolyzer consists of electrodes situated along the longitudinal cell axis, with a gap between them to facilitate the mixing of the culture medium. This location of electrodes produces higher yields of O_2 and H_2 during the electrolysis and the mass exchange process is intensified.

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USSR

BASOV, N. G., IVANOV, YU. S., KROKHIN, O. N., MIKHAYLOV, YU. A., SKLIZKOV, G. V., and FEDOTOV, S. I., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

"Neutron Production in Spherical, High-Power Laser Irradiation of a Target"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 15, No 10, 20 May 72, pp 589-592

Abstract: The authors recorded the neutron yield during the heating of a solid, deuterated polyethylene target subjected to spherical irradiation by a multibeam laser. It was found that the results significantly exceed those obtained during strong focusing. The size of the heated target was approximately equal to the focal spot diameter, and the heated mass was determined by the particle mass. The scheme for focusing nine laser beams on the target was similar to one previously described by the authors. The neutrons were recorded by three scintillation detectors placed at various distances from the target. Recoil-proton nuclear photoemulsions were used for the quantitative measurements. Assuming isotropism of the neutron escape from the plasma, the number of neutrons per burst was found to be equal to $3 \cdot 10^6$.

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BASOV, N. G., et al., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 15, No 10, 20 May 72. pp 589-592

The authors thank V. G. LARIONOVA and L. I. IVANOVA for assistance in processing the photoemulsions, and V. M. GROZNOV, A. A. YEROKHIN, N. N. ZOREV, and N. V. NOVIKOV for assisting in the work.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--RADIO FREQUENCY CONTROL SYSTEM FOR THE BEAM OF THE 70 GEV PROTON
SYNCHROTRON -U-
AUTHOR--(04)--IVANOV, YU.S., KALININ, V.A., KUZMIN, A.A., CHIRKOV, S.V.

CCOUNTRY OF INFO--USSR

SGURCE--(CERN TRANS 69-24) NTD 6823. 11P. DEP. CFSTI

DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SYNCHROTRON, PROTON, FREQUENCY CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/1912

STEP NO--UR/0000/70/000/000/0001/0011

CIRC ACCESSION NO--AT0127313

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0127313

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYSTEM FOR THE CONTROL OF THE RADIOFREQUENCY BY USE OF THE BEAM IS BASED ON THE REGULATION OF THE FREQUENCY OF THE PILOT GENERATOR BY SIGNALS PROPORTIONAL TO THE RADIAL DISPLACEMENT OF THE BEAM WITH RESPECT OT THE NOMINAL ORBIT AND PROPORTIONAL TO THE DEPHASING OF THE CENTER OF GRAVITY OF THE BEAM WITH RESPECT TO THE ACCELERATOR FIELD. THE CONTROL SYSTEM IS DESCRIBED AND ITS OPERATIONAL EFFICIENCY IS DISCUSSED. FACILITY: AKADEMIYA NAUK SSSR, MOSCOW. RADIOTEKHNICHESKII INSTITUT.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--OBSERVATION SYSTEM OF THE 70-GEV PROTON SYNCHROTRON -U- /

AUTHOR--(05)-BOLSHAKOV, YU.D., GERTSEV, K.F., IVANOV, YU.S., KUZMIN, A.A.,
RUBCHINSKIY, S.M.
COUNTRY OF INFO--USSR

SOURCE--(CERN-TRANS-69-23) NTD-6827

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PROTON ACCELERATOR, SYNCHROTRON, PARTICLE MOTION, TRAJECTORY
MEASUREMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1985/0787

STEP NO--UR/0000/70/000/000/0001/0012

CIRC ACCESSION NO--AM0101160

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--16OCT76
CIRC ACCESSION NO--AM0101160
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BEAM ORBIT OF THE IHEP
SYNCHROTRON IS DETERMINED BY MEASURING THE DISPLACEMENT OF THE CENTER OF
GRAVITY OF ACCELERATED PARTICLE BUNCHES WITHIN 85 AZIMUTH POINTS. A
SPECIAL SYSTEM IS DESCRIBED WHICH ALLOWS A DETERMINATION OF THE POSITION
OF THE CLOSED ORBIT, AS WELL AS THE FREQUENCY, AMPLITUDE, AND PHASE OF
THE COHERENT BETATRON OSCILLATIONS. THE EQUIPMENT ASSURES A PRECISION
MEASUREMENT OF THE ORBIT DEPLACEMENT OF PLUS (5 TO 7)PERCENT PLUS 1 MM
FOR AN INTENSITY OF 10^{11} TO 10^{14} PROTONS AND 10 TO 15PERCENT
FOR AN INTENSITY OF 10^{10} PROTONS. FACILITY: AKADEMIYA
NAUK SSSR, MOSCOW. RADIOTEKHNICHESKII INSTITUT.

UNCLASSIFIED

USSR

UDC 662.61.001.57

KANTOROVICH, B. V., IVANOV, Yu. V., MAKSIMENKO, Yu. F.

"Modeling Pulsations of an Ideal Mixing Reactor"

V sb. Dinamika teplov. protsessov v energetike i tekhnol. (The Dynamics of Thermal Processes in Power Engineering and Technology -- Collection of Works), Kiev, "Nauk. dumka", 1971, pp 78-85 (from RZh-Teploenergetika, No 7, Jul 72, Abstract No 7T49)

Translation: The combustion process in the stoichiometric regime generates pulsations, the frequency of which is determined by the heat-air relationship. In the theory of vibration combustion particular attention is given to the properties of the acoustical system and only the role of a perturbing force and energy source is given to combustion itself. Pulsation mechanisms exist, however, associated only with the combustion processes themselves. Vibrational processes were modeled on the MN-7 computer. It was shown that pulsations of the relaxation type arise in an ideal mixing reactor. The dependence of the frequency of the relaxation vibrations on the heat flow and on oxygen was investigated. The studies verified that one can judge the shape of the pulsation spectrum on the basis of the heat-air relationship. 3 ill., 6 ref. R. M. Shchurin.

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- 71 -

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF IONIZING RADIATION ON THE REPRODUCTIVE CAPACITY OF THE
ENDOTHELIUM OF BLOOD VESSELS -U-
AUTHOR--IVANOV, YU.V.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 124-7
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA RADIATION, COBALT ISOTOPE, RADIATION BIOLOGIC EFFECT,
BLOOD VESSEL, MITOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1850 STEP NO--UR/0205/70/010/001/0124/0127
CIRC ACCESSION NO--AP0127260
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127260

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RABBITS WERE IRRADIATED WITH 500 OR 950 R OF PRIME60 CO GAMMA RAYS, AND MITOTIC ACTIVITIES OF ENDOTHELIUM CELLS WERE INVESTIGATED 3-50 DAYS POSTIRRADN. IN THE ENDOTHELIUM CELLS OF THE AORTAL ARCH OF HEALTHY ANIMALS, 0.02PERCENT OF DIVIDING CELLS WERE OBSERVED. CHANGES IN THE MITOTIC INDEX OF IRRADIATED RABBITS HAD SPECIFIC DOSE RELATED CHARACTERISTICS. AFTER 950 R IRRADN., AFTER A SHORT PERIOD OF DEPRESSION OF MITOTIC ACTIVITY, A GRADUAL INCREASE OF MITOSIS RATE WAS OBSD., CONSIDERABLY EXCEEDING THE CORRESPONDING VALUES IN THE CONTROL RABBITS. THE INCREASE IN ABNORMALLY DIVIDING CELLS WAS CORRELATED WITH THE IRRADN. DOSE. FACILITY: INST. BIOFIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--FORMATION CONSTANTS FOR ANIONIC HYDROXO COMPLEXES OF SOME GROUP III
ELEMENTS -U-
AUTHOR-(04)-IVANOVEMIN, B.N., YEGOROV, A.M., ROMANYUK, V.I., SIFOROVA,
YE.N.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1224-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, INDIUM COMPOUND, THALLIUM COMPOUND, YTTRIUM
COMPOUND, YTTERBIUM COMPOUND, LUTETIUM COMPOUND, ERBIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1144 STEP NO--UR/0078/70/015/005/1224/1228
CIRC ACCESSION NO--AP0136564
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136564

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLEX FORMATION CONSIS. OF
ANIONIC HYDROXO COMPLEXES OF IN, TL, SC, Y, ER, YB, AND LU ARE CALCD.
AND THE RESULTS ARE TABULATED. FACILITY: UNIV. DRUZHBY NAR, IN.
LUMUMBY, MOSCOW, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPLEXES OF SCANDIUM OXALATE WITH O PHENANTHROLINE -U-
AUTHOR--(05)-IVANOVEMIN, B.N., GRIDASOVA, R.K., ZAYTSEV, B.YE., VALKARSEL,
G., EZHOV, A.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 674-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METAL COMPLEX COMPOUND, CRYSTAL STRUCTURE, ORGANOMETALLIC
COMPOUND, ORGANIC COMPLEX COMPOUND, IR SPECTRUM, BENZENE DERIVATIVE,
OXALATE, SCANDIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0678 STEP NO--UR/0078/70/015/003/0674/0677
CIRC ACCESSION NO--AP0113549
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0113549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MIXT. OF 1:1 MOLE RATIO OF
NASC(C SUB2 O SUB4) SUB2.2-H SUB2 O WITH PHEN (O PHENANTHROLINE) IN AQ.
SOLN. GAVE CRYST. SC SUB2 (C SUB2 O SUB4) SUB3 2PHEN (I) AS PPT., WITH
ALPHA 1.514 AND GAMMA 1.616. THE IR SPECTRUM OF I REVEALS THAT C SUB2 O
SUB4 PRIME2 NEGATIVE AS WELL AS PHEN ARE COORDINATED TO SC. A STRUCTURE
IS PROPOSED FOR I.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SODIUM AND POTASSIUM HYDROXYTITRATES -U-

AUTHOR-(04)-IVANOVEMIN, B.N., BORZOVA, L.D., MALYUGINA, S.G., ZAYTSEV,
B.YE.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 666-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, THERMAL DECOMPOSITION, IR SPECTRUM,
SPECTROSCOPIC ANALYSIS, SODIUM COMPOUND, POTASSIUM COMPOUND, YTTRIUM
COMPOUND, HYDROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1882

STEP NO--UR/0038/70/015/003/0666/0669

CIRC ACCESSION NO--AP0115701

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0115701

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. M SUB3 (Y(OH) SUB6) (M EQUALS NA OR K) WERE SYNTHESIZED IN MEQH SOLNS. THERMAL DECOMPN. OF M SUB3(Y(OH) SUB6) PROCEEDED VIA 2 ENDOTHERMAL EFFECTS, CORRESPONDING TO A CONVERSION OF (Y(OH) SUB6) PRIME3 NEGATIVE TO (Y(OH) SUB4) PRIME NEGATIVE AND TO A SUBSEQUENT DEHYDRATION AND FORMATION OF YO SUB2 PRIME NEGATIVE. THE IR SPECTRUM OF NA SUB3 (Y(OH) SUB6) IS GIVEN. FACILITY: UNIV. DRUZHBY NAR. IM. LUMUMBY, MOSCOW, USSR.

UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132721

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER EQUILIBRIUM CONDITIONS IN THE E REGION THE SQUARE OF THE ELECTRON CONCENTRATION IS PROPORTIONAL TO THE RATE OF ION FORMATION $N \text{ SUBE PRIME}^2$ EQUALS $Q\text{-ALPHA PRIME}$, WHERE ALPHA PRIME IS THE EFFECTIVE RECOMBINATION COEFFICIENT. THIS PAPER GIVES COMPUTATIONS OF THE PROFILE OF THE RATE OF ION FORMATION UNDER THE INFLUENCE OF SOLAR RADIATION $Q \text{ MASS OF THE SUN (H)}$ AND EXPERIMENTAL $N \text{ SUBE (H)}$ PROFILES IN ORDER TO CLARIFY HOW THE LATTER $Q \text{ MASS OF THE SUN}$ VALUES CORRESPOND TO REAL CONDITIONS IN THE E REGION. IN THIS FIRST PART OF THE STUDY THE AUTHORS EXAMINE CONDITIONS FOR THE YEARS OF MAXIMUM SOLAR ACTIVITY; THE SECOND PART EXAMINES CONDITIONS FOR LOW ACTIVITY. THE STUDY IS BASED ON $N \text{ SUBE}$ MEASUREMENTS MADE USING GROUND VERTICAL SOUNDINGS AT IRKUTSK IN THE SUMMER OF 1968 AND DATA FROM SOME ROCKET EXPERIMENTS MADE DURING THE SUMMER MONTHS OF 1957-1960. THE ANALYSIS WAS BASED ON MEAN $N \text{ SUBE}$ VALUES AT H EQUALS 100-115 KM ON THE BASIS OF ROCKET AND GROUND MEASUREMENTS; ABOVE THE LAYER MAXIMUM (H IS APPROXIMATELY EQUAL TO 115 KM) ONLY ROCKET DATA WERE USED. SINCE THE IONOSPHERIC DATA USED APPLY FOR THE MOST PART TO INTERMEDIATE SOLAR ACTIVITY, F IS APPROXIMATELY EQUAL TO 150 TIMES 10 PRIME NEGATIVE 22 W-M PRIME² CPS, THE MEAN GEOMETRICAL $Q \text{ MASS OF THE SUN}$ VALUES FOR F EQUALS 80 AND 200-250 WERE USED AS VALUES OF THE ION FORMATION FUNCTION $Q \text{ MASS OF THE SUN}$. ON THE BASIS OF $Q(H)$ OBTAINED IN THIS WAY IT IS POSSIBLE TO COMPUTE THE PARAMETER M IN THE EXPRESSION $Q \text{ ALPHA CH PRIME NEGATIVE MZ}$ MASS OF THE SUN FOR $Z \text{ MASS OF THE SUN}$ EQUALS 55-90 DEGREES. THIS CHARACTERIZES THE RATE OF CHANGE IN $Q \text{ MASS OF THE SUN}$.

UNCLASSIFIED

3/3 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132721

ABSTRACT/EXTRACT--FOR EXPLAINING THE MEASURED N SUBE IT IS NECESSARY TO HAVE LARGER Q THAN CAN BE ENSURED BY SHORT WAVE SOLAR RADIATION. ACCORDINGLY, AT THE ALTITUDES OF THE E REGION FOR Z MASS OF THE SUN GREATER THAN 60DEGREES AN ADDITIONAL IONIZATION SOURCE MUST EXIST. THE CONTRIBUTION FROM THIS SOURCE AT THE MENTIONED ALTITUDES IS ESTIMATED. IT CAN BE CONCLUDED THAT THE ADDITIONAL SOURCE AT THE E REGION ALTITUDES FOR LARGE ZENITH ANGLES Z MASS OF THE SUN GREATER THAN OR EQUAL TO 75DEGREES MAKES ITS PRINCIPAL CONTRIBUTION TO IONIZATION AT H IS APPROXIMATELY EQUAL TO 100-110 KM. THE SOURCE INTENSITY ON THE AVERAGE IS DEPENDENT ON THE SOLAR ACTIVITY LEVEL. FACILITY: INSTITUTE OF APPLIED GEOPHYSICS.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STATUS OF STUDIES OF THE AERONOMY OF THE E AND D REGIONS OF THE
IONOSPHERE -U-
AUTHOR--IVANOVKHOLODNYI, G.S. I
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 385-391
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES
TOPIC TAGS--AERONOMY, IONIZATION, E LAYER, D LAYER, POSITIVE ION, NEGATIVE
ION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0548 STEP NO--UR/0203/70/010/003/0385/0391
CIRC ACCESSION NO--AP0132734
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132734

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS IS A REVIEW OF THE PRESENT STATUS OF STUDY OF IONIZATION IN THE E REGION AND THE UPPER PART OF THE D REGION (THERE IS A BIBLIOGRAPHY OF 111 ITEMS). THE FOLLOWING ARE AMONG THE ASPECTS OF THE PROBLEM CONSIDERED: E REGION, N SUBE VARIATION DURING A 24 HOUR PERIOD; REFINEMENT OF Q(H) COMPUTATIONS USING AN ELECTRONIC COMPUTER; ADDITIONAL IONIZATION SOURCE; ION COMPOSITION (OBSERVATIONS); RATE OF FORMATION OF PRIMARY IONS; ION MOLECULAR REACTIONS AND ION CONCENTRATION; RELATIVE ION CONCENTRATION; ABSOLUTE CONCENTRATION OF IONS AND ELECTRONS; EFFECTIVE RECOMBINATION COEFFICIENT; NIGHTTIME IONOSPHERE AND THE CORPUSCULAR HYPOTHESIS. D REGION, ELECTRON CONCENTRATION; ROCKET MEASUREMENTS OF N SUBI AND N SUBI PRIMENEGATIVE; SPECTRUM OF POSITIVE IONS; SPECTRUM OF NEGATIVE IONS; FORMATION OF NEGATIVE IONS; REACTIONS OF TRANSFORMATION OF IONS AND ELECTRON DETACHMENT; CONCENTRATION OF NEGATIVE IONS.

UNCLASSIFIED

Photoelectric Effect

USSR

UDC 621.315.592

GEORGITSE, YE. I., IVANOV-OMSKIY, V. I., KOLOMIYETS, B. T., MAL'KOVA, A. A.,
SMEKALOVA, K. P.

"Fluctuations of the Photoconductivity in a Magnetic Field and the Photomagnetic
Effect of $\text{Cd}_{0.20}\text{Hg}_{0.80}\text{Te}$ Alloy"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 455-457

Abstract: A study was made of photoconductivity in a transverse magnetic field and the photomagnetic effect of $\text{Cd}_{0.20}\text{Hg}_{0.80}\text{Te}$ alloy at 10°K . The oscillatory nature of the spectra with a period depending on the magnetic field intensity was detected. The fluctuations of the photoelectric phenomenon are caused by quantum oscillations of optical absorption. The g-factor and effective mass of the electrons were estimated. Graphs are presented showing the photoconductivity spectra of the alloy for different magnetic field intensities. The oscillation period with respect to energy in the photoconductivity and photomagnetic effect spectra increases with the magnetic field. Therefore, they do not pertain to the phonon oscillations. The presence of oscillation peaks in the field functions indicates that the oscillations are caused by quantization of the energy spectrum of the electrons in the magnetic field. The oscillation period $\Delta 1/H$ is not constant, and, consequently, the oscillations cannot be
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GEORGITSE, YE. I., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 455-457

considered Shubnikov-de Haas or Gurevich-Firsov. It is proposed that the fluctuations of the absorption coefficient in the magnetic field are responsible for the observed peculiarities. The correspondence of the minimum photoconductivities to the maximum photomagnetic effect indicates the relation of the oscillations of the photoelectric phenomena of the alloy to the quantum oscillations of the optical absorption coefficient. Correspondence of the estimates of the g-factor and the effective electron mass with published data confirms the correctness of the assumptions with respect to the nature of the observed fluctuations. However, considering the measurement taken in non-polarized light, the results obtained do not permit a more complete analysis of the energy spectrum of electrons in a magnetic field.

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USSR

IVANOV-QMSKIY, V. I., KOLOMIYETS, B. T., MEL'NIK, V. M. and OGORODNIKOV, V. K.,
Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences USSR, Lenin-
grad

"Magnetic Susceptibility of HgTe"

Abstract: Measurements of magnetic susceptibility in fields above critical ($H_{cr} \approx 3$ koe) when anomalous susceptibility disappears are analyzed. The Faraday method was used to measure the magnetic susceptibility of n-HgTe single crystals over a wide range of temperatures (2-300°K) and concentrations ($1.6 \cdot 10^{15}$ - $4 \cdot 10^{18}$ cm⁻³). The lattice susceptibility was determined from measurements on pure samples at liquid helium temperatures and was found to be diamagnetic and equal to $(-0.34 \pm 0.003) \cdot 10^{-6}$ cgs electrostatic units. The electron gas was paramagnetic over the entire range of concentration and temperatures. The results were analyzed on the basis of the theory taking into account the inverse order of zones, as in α Sn. The agreement between experiment and theory is given as an argument for using the inverse zone structure in HgTe.

1/2 028 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MOBILITY OF ELECTRONS IN INTRINSIC MERCURY TELLURIDE AND IN N TYPE
MERCURY TELLURIDE -U-
AUTHOR--(04)-IVANOVOMSKIY, V.I., KOLOMIYETS, B.T., OGRODNIKOV, V.K.,
SMEKALOVA, K.P.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 264-9
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MERCURY, TELLURIDE, ELECTRON MOBILITY, ELECTRON SCATTERING,
CRYSTAL IMPURITY, PHONON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1865 STEP NO--UR/0449/70/004/002/0264/0269
CIRC ACCESSION NO--AP0118827
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0118829

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCES OF COND. R AND THE HALL MOBILITY, R SIGMA, OF N HGTE ARE DETD. IN A WIDE RANGE OF TEMPS. AND IMPURITY CONCNS. THE R SIGMA IS MEASURED IN WEAK MAGNETIC FIELDS (SIMILAR TO 03) AND R IS WEAK ELEC. FIELDS SIMILAR TO 10 MV-CM. WITH THE AID OF THE 2 BAND THEORY OF COND. IT IS SHOWN THAT AT THE EXISTING HIGH RATIO OF ELECTRON TO HOLE MOBILITY (50-100) THE VALUES OF R AND R SIGMA CORRESPOND TO THE CONCEN. AND HALL MOBILITY OF THE ELECTRONS, RESP. THE INCREASE OF N SUB3 TO SIMILAR TO 10 PRIME19-CM PRIME3 LEADS TO A DROP IN MOBILITY BY 2 DECADES. THERE IS NO VARIATION OF R SIGMA WITH TEMP. FOR STRONGLY DOPED CRYSTALS UP TO 77DEGREESK ABOVE WHICH IT DECREASES SLIGHTLY. IN PURE SAMPLES R SIGMA DECREASES IRREGULARLY WITH TEMP. FROM 10 PRIME6 CM PRIME2-V SEC AT 20DEGREESK TO SIMILAR TO 3 TIMES 10 PRIME4 CM PRIME2-V SEC AT 130DEGREESK. THE THEORETICAL R SIGMA-N SUB3, DEPENDENCE LIES ABOVE THE EXPTL. WHICH IS DOPED SAMPLES AND ON HOLES FOR THE PURE ONES. ACCOUNTING FOR THE SCREENING EFFECT BY VALENCE ELECTRONS THE ELECTRON MOBILITY IN HGTE AT 4.2DEGREESK IS ESTD. AS (1-3) TIMES 10 PRIME6 CM PRIME2-V SEC. ELECTRON SCATTERING ON OPTICAL PHONONS IS ALSO SIGNIFICANT AT 100-300DEGREESK, WHILE ACOUSTIC PHONONS HAVE NO EFFECT IN THE SCATTERING PROCESS. FACILTIY: FIZ.-TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

1/3 016 UNCLASSIFIED PROCESSING DATE--18OCT70
TITLE--MAGNETIC SUSCEPTIBILITY OF HOLES IN MERCURY TELLURIDE, INDIUM
ANTIMONIDE, AND GERMANIUM -U-
AUTHOR-(04)-KOLOMYETS, B.T., GELMONT, B.L., IVANOVOMSKIY, V.I., MELNIK,
V.M.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 299-304
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--MAGNETIC SUSCEPTIBILITY, MERCURY COMPOUND, TELLURIDE, INDIUM
ANTINOMIDE, GERMANIUM, HALL CONSTANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/0938 STEP NO--UR/0449/70/004/002/0299/0304
CIRC ACCESSION NO--AP0116447
UNCLASSIFIED

2/3 016 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0116447

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MAGNETIC SUSCEPTIBILITY (χ) MEASUREMENTS OF P TYPE HGTE, INSB, AND GE WERE CARRIED OUT IN A WIDE RANGE OF TEMP. AND CARRIER D. TO DET. THE CONTRIBUTION OF LIGHT AND HEAVY HOLES. AN EXPLICIT EXPRESSION FOR χ OF ELECTRONS IN A WEAK MAGNETIC FIELD IS DERIVED AS A FUNCTION OF FERMI ENERGY IN THE CASE OF INSB. A SIMILAR EXPRESSION WHERE ONLY S P INTERACTION IS ACCOUNTED FOR IS ALSO PRESENTED. THE SAME EXPRESSIONS ARE VALID ALSO FOR HGTE, TAKING INTO ACCOUNT THAT ϵ SUBG IS SMALLER THAN 0. CARRIER DS. WERE DETD. FROM HALL COEFF. MEASUREMENTS AT 4.2DEGREESK, WHERE THE EFFECT OF THE MAGNETIC FIELD IS NEGLIGIBLE. FROM 4.2 TO SIMILAR TO 77DEGREESK, χ OF P HGTE IS ALMOST INDEPENDENT OF TEMP. AND FROM 77 TO IS SIMILAR TO 290DEGREESK IT RISES STEEPLY WITH TEMP. THE INCREASE OF HOLE CONCN. LEADS TO A DECREASE OF χ , IMPLYING THAT HOLES IN P HGTE ARE DIAMAGNETIC. THE TEMP. DEPENDENCE OF χ OF P INSB IS SIMILAR EXCEPT FOR THE SAMPLE WITH N SUBP EQUALS 5 TIMES 10 PRIME13-CM PRIME3, WHERE χ DECLINES WITH INCREASING TEMP. THIS IS ASSOCD. WITH THE INCREASE OF ELECTRON D. IN THE REGION OF MIXED COND. THE EXPTL. CARRIER D. DEPENDENCE OF χ IN P HGTE IS A MONOTONICALLY DECAYING CURVE WHICH IS CLOSE TO THE THEORETICALLY CALCD. EXCEPT FOR THE LOWEST HOLE CONCN. SAMPLES, WHERE THE PARAMAGNETIC CONTRIBUTION HAS TO BE ACCOUNTED FOR AT GREATER THAN 4.2DEGREESK. THE CONCN. DEPENDENCE OF χ OF P INSB IS NONMONOTONIC AND SHOWS THAT THIS SEMICONDUCTOR IS PARAMAGNETIC AT 3 TIMES 10 PRIME15 MINUS 6 TIMES 10 PRIME18-CM PRIME3, DIAMAGNETIC AT 6 TIMES 10 PRIME18 MINUS 3.5 TIMES 10 PRIME19-CM PRIME3, AND AGAIN PARAMAGNETIC AT 3.5 TIMES 10 PRIME19-CM PRIME3.

UNCLASSIFIED

3/3 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116447

ABSTRACT/EXTRACT--THE WAVE VECTOR DEPENDENCE OF LIGHT CARRIER ENERGY IS NONPARABOLIC BECAUSE OF STRONG S P INTERACTION. THE PARAMAGNETIC CHARACTER OF N HGTE AND P INSB IMPLIES THAT OTHER BANDS BESIDES S P INTERACTION ARE INVOLVED. THE EFFECT OF CRIMPING OF THE ISOENERGETIC SURFACE OF HEAVY HOLES ON THEIR X IS CONSIDERABLE FOR GE, BUT IS INSIGNIFICANT WITH P HGTE AND P INSB. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

1/2 046 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PHONON PLASMA INTERACTION AND INTERBAND TRANSITIONS IN MERCURY
TELLURIDE -U-
AUTHOR-(05)-IVANOVONSKIY, V.I., KOLOMIYETS, B.T., MALKOVA, A.A., MARKOV,
YU.F., MEKHTIYEV, A.SH.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 417-19
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MERCURY COMPOUND, TELLURIDE, SINGLE CRYSTAL PROPERTY, ELECTRON
MOBILITY, IR REFLECTANCE, PHONON INTERACTION, PLASMA INTERACTION,
CRYOGENIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0091

STEP NO--UR/0449/70/004/002/0417/0419

CIRC ACCESSION NO--AP0105177

UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105177

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE IR REFLECTANCE WAS MEASURED FOR WAVELENGTHS OF 50-90 MU FROM INTRINSIC HGTI AT 80DEGREEK USING AN OPTICALLY POLISHED SURFACE OF A SINGLE CRYSTAL WITH N EQUALS 1.6 TIMES 10 PRIME15-CM PRIME3 AND AN ELECTRON MOBILITY OF 8 TIMES 10 PRIME5 CM PRIME2-V-SEC AT 4.2DEGREEK. EXPRESSIONS ARE GIVEN FOR ACCOUNTING FOR THE PHONON PLASMA INTERACTION, AND A THEORETICAL CURVE WAS SET UP FOR THE REFLECTANCE AT 80DEGREEK. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 621.396.6.019.3

IVANOV-YESIPOVICH, N. K.

"On Course Instruction in the Reliability of Radio Equipment Design"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 50, pp 108-114 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2V313)

Translation: A method is discussed for teaching the fundamentals of predicting failures of radio equipment. A comparative analysis is given of four procedures for prognosis: visual, overload, biographic and symptomatic. One illustration. N. S.

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USSR

UDC 615.217.34.015.42:612.82.015.348

YELAYEV, N. R., IVANOVA, A. I., and KRYLOV, S. S., Institute of Toxicology, Leningrad

"Time Parameters of the Activation of the Synthesis of Protein and RNA in the Brain Under the Action of the Atropine-Like Substance Amisyl"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 5, 1973, pp 1201-1202

Abstract: It has been shown in earlier work by the authors that the central M-cholinolytic amisyl (N-diethylaminoethyl ester of diphenylglycolic acid), on being administered in doses that inhibit conditioned reflexes, activates the synthesis of protein and of RNA in the brain of rats. The synthesis of membrane proteins is induced predominantly under the conditions in question. The incorporation of 2-¹⁴C-uridine and 1-¹⁴C-glycine into newly synthesized RNA and proteins of the brain, respectively, upon a single intraperitoneal administration to rats of amisyl in a dose of 4 mg/100 g in the work conducted in this instance indicated that the synthesis of proteins initially lagged behind that of RNA; that the maximum synthesis of both was reached 2 hrs after the administration the effect of the drug in stimulating the synthesis of RNA and proteins had completely disappeared. After a single administration of amisyl, the content of proteins synthesized under the

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USSR

YELAYEV, N. R., et al., Doklady Akademii Nauk SSSR, Vol 213, No 5, 1973, pp 1201-1202

effect of this drug, as indicated by the tracer radioactivity, reached zero on the 96th hour after administration; hence, the half-life of the newly synthesized proteins was much shorter than that of brain proteins in general, which amounts to several tens of days. In experiments in which amisyl and ^{14}C -glycine were administered daily for 13 days, the content of radioactive proteins remained at the initial level reached on the first day. Apparently no tolerance to the cholinolytic developed, so that its action must lead to the formation of an excess amount of newly synthesized proteins. One may conclude that the cholinolytic inhibits (presumably indirectly) the mechanism suppressing the synthesis of some class of nerve cell proteins.

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- 7 -

USSR

UDC: 8.74

SHCHERBASHIN, Yu. D., IVANOVA, A. I.

"A Language for Describing Systems for Monitoring and Control of Technological Processes"

Tr. NII upravl. vychis. mashin (Works of the Scientific Research Institute of Control Computers), 1971, vyp. 4, pp 31-45 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V619)

Translation: The paper gives a brief description of a specialized language which can be used for describing and automatically arranging software in systems for monitoring and control of continuous technological processes. Use of this language facilitates and simplifies the procedure of program compilation in developing specific automatic control systems. Authors' abstract.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

TITLE--OSCILLATOR STRENGTHS FOR THE EXCITED STATES OF HELIUM LIKE SYSTEMS
-U-

AUTHOR--(03)-SAFRONOVA, U.I., IVANOVA, A.N., KHARITONOVA, V.N.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(3), 585-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--HELIUM, OSCILLATION, MATRIX ELEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1998/0922

STEP NO--UR/0051/70/028/003/0585/0588

CIRC ACCESSION NO--AP0121524

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121524

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ZERO AND 1ST ORDER
PERTURBATION CALC. OF THE DIPOLE MOMENT MATRIX ELEMENT AND OSCILLATOR
STRENGTHS OF EXCITED HE LIKE SYSTEMS ARE DESCRIBED. THE 1S PRIME2 1SNP
AND 1SN SUB1 S 1SN SUB2 P TRANSITIONS WERE CONSIDERED.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE E.S.R. LINE SHAPE FOR THE IMINOXYL RADICAL IN HIGH VISCOSITY
MEDIA -U-
AUTHOR--(05)-ALEXANDROV, I.V., IVANOVA, A.N., KURST, N.N., LAZAREV, A.V.,
PRINHOZHENKO, A.I.
COUNTRY OF INFO--USSR
SOURCE--MOLECULAR PHYS. (GB), VOL. 16, NO. 5, P. 681-91 (MAY 1970)
DATE PUBLISHED----MAY70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTRON SPIN RESONANCE, IMINE, FREE RADICAL, CALCULATION,
VISCOUS FLUID, THERMAL EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/0640 STEP NO--UK/0000/70/016/005/0681/0691
CIRC ACCESSION NO--AP0111833
UNCLASSIFIED

2/2 017
CIRC ACCESSION NO--AP0111833

UNCLASSIFIED

PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE E.S.R. LINE SHAPE OF THE
IMINOXYL RADICAL IN VISCOUS LIQUIDS WAS INVESTIGATED AT SEVERAL
TEMPERATURES. THE RESULTS ARE INTERPRETED BY THEORETICAL CALCULATION OF
THE LINE SHAPE AT AN ARBITRARY VALUE BY USING A DIFFUSION MODEL FOR THE
MOTION OF THE MOLECULES (11 REFS.). FACILITY: ACAD. SCI. USSR.,
MOSCOW.

UNCLASSIFIED

USSR

UDC 615.285.7:547.497.1/09

IVANOVA-CHEMISHANSKA, L., Scientific Research Institute of Work Safety and
~~Occupational Diseases~~, Sofia

"Toxicology of Some Dithiocarbamates"

Moscow, Gigiyena i Sanitariya, No 11, Nov 71, pp 95-98

Abstract: Experiments were conducted with white rats to determine the effects of the dithiocarbamate pesticides Zineb (perotsin), maneb, and mankozeb (zinc-manganese-ethylene-bis-dithiocarbamate) on the organism. LD₅₀ for the three compounds was found to be over 5 g/kg. The cumulative index is over 3, indicating mild cumulative action, although further studies showed that chronic use is potentially dangerous. Liver damage ranged from functional changes to dystrophy and necrosis with large doses. Kidney damage was less pronounced; large doses resulted in nephrotic disorders. An antithyroid effect and hyperactivity were observed in the thyroid. Inhalation caused changes in respiratory organs, from catarrhal tracheitis to perivascular, peribronchial, and interstitial inflammatory infiltrates, atelectasis, and emphysema. Embryotoxic and teratogenic effects were observed in the progeny.

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Acc. Nr: **102946** - Abstracting Service:
ATC - CHEMICAL ABST. 6-70

Ref. Code:

4A0139

116390t Effect of thermal treatment of the film on the intensity of the vibrational band for silicon-oxygen bonds in passivating films. Ivanova, E. N.; Latyshev, A. N.; Synorov, V. F.; Erokhina, L. E.; Ogurtsova, M. P. (Voronezh. Gosuniv., Voronezh, USSR). Izv. Vyssh. Ucheb. Zaved., Fiz. 1970, 13(1), 154-5 (Russ). The effect of heating on the intensity of absorption band of the Si-O bonds of SiO at $10\ \mu$ was investigated. The monoxide films were obtained by thermal dusting SiO and quartz oxide in vacuo (5×10^{-5} torr) on polished Si plates. Thermal treatment was carried out at 300 and 500° for 5-30 min. A shift of absorption band from 10 to 9.3 μ together with a gradual increase of its intensity was obsd. in dependence on the heating degree. The layers of 1-1.3 μ , for which no interference effect was to be taken into account, were used to obtain the abs. absorptivity value. The spectrum of a 1- μ thick film before and after the 20- and 30-min heating in Ar at 510° was studied. The transmissivity changes of the film, caused by the effect of its thermal treatment, are 2%. An increase of the absorption band intensity in the spectrum of the film is due to a gradual transition of Si monoxide to dioxide at a const. no. of O atoms. This effect must be taken into consideration for the detn. of stoichiometric compn. of passivating films by ir spectroscopy.

Vaclav Sara

REEL/FRAME
19861012

USSR

UDC 615.916:264-31.06:617.001.28-092.9

KUSTOV, V. V., TIUNOV, L. A., VASIL'YEV, G. A., KEYZER, S. A., and IVANOVA, F. A., Moscow

"Combined Effects of Carbon Monoxide and Ionizing Radiation in a Chronic Experiment"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 5, 1971, pp 36-38

Abstract: Exposure of rats to carbon monoxide (0.012 mg/L) for 85 days inhibited the animals' growth, increased their resistance to hypoxia, and decreased the weight of the lungs and liver. Exposure of other rats to the same amount of CO and ionizing radiation (0.05 ron/day) for the same length of time had no effect on the animals' growth or resistance to hypoxia, but it decreased the weight not only of the lungs and liver but of the uterus as well. In a second experiment, exposure of rats to ionizing radiation but at a lower dose of 0.01 (0.005 mg/L) did not have any specific adverse effects, for in hematologic, blood chemical, and morphologic respects the experimental animals virtually indistinguishable from the controls.

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Publications

USSR

UDC 619:616.988-07

SYURIN, V. N., IVANOVA, G. A., KRASNOBAYEV, Ye. A., and FOMIN, Yu. V.

Laboratornaya diagnostika virusnykh bolezney zhivotnykh (Laboratory Diagnosis of Virus Diseases of Animals), Moscow, Kolos, 1972, 416 pp w/ill.

Annotation

Employing the latest advances by Soviet and foreign scientists the authors of the present book summarize the existing data on the diagnosis of virus diseases of animals.

In the description of a given disease a brief description of the agent is presented. Only those data that are essential for the identification of a virus and for the establishment of its etiological role in the onset of a disease are given.

The methods of taking, preparing and storing materials and the methods of growing viruses in large developing embryos, in primary and subinoculated cultures of cells from various animal tissues and organs, etc., are described in considerable detail.

Basic attention is devoted to the executing and reading of diagnostic reactions (complement fixation reaction, neutralization reaction, agglutination inhibition reaction, etc.) and to the description of a method for conducting biological tests of receptive laboratory animals.

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USSR

SYURIN, V. N., et al., Laboratornaya diagnostika virusnykh bolezney zhivotnykh, 1972, 416 pp w/ill.

The book also contains both common, widespread diseases of farm animals as well as little-studied, so-called "exotic" diseases characteristic of animals on the African continent, the introduction of which to our country is not excluded as a result of the ever-developing trade and transport relations.

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SYURIN, V. N., et al., Laboratornaya diagnostika virusnykh bolezney zhivotnykh, 1972, 416 pp w/ill.

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USSR

SYURIN, V. N., et al., Laboratornaya diagnostika virusnykh bolezney zhivotnykh,
1972, 416 pp w/ ill.

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IVANOVA, G.A.

185 57493
13 Nov 72

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The purpose of the present investigation was to work out and test in practice a system of differentiated hygiene training for sick and

healthy and the sick.
The enormous role of the subjective factor in onset of chronic gastritis and exacerbations thereof and the fact that prophylaxis is important not only as a measure for prevention of this illness but also as a measure to control other pathology of the digestive system determined the urgency of special scientific research to evolve the different aspects of hygienic education related to prophylaxis of chronic gastritis among the healthy and the sick.

The findings of L.P. Zabolotskaya and Ye.A. Vasil'yeva indicate the exceptional urgency of health education in prevention of gastrointestinal pathology. The place of health education in the set of therapeutic and preventive measures with reference to gastritis, and first of all within the dispensary system (S.Ya. Byan) was properly noted at the 16th All-Union Congress of Internists (Moscow, 1968).

Chronic gastritis occupies the focal place in pathology of digestive organ. Numerous observations, studies, and practice indicate the enormous significance of poor hygiene habits in the etiology of this illness. Many authors (V.N. Bugagovskaya; F.K. Men'shkov; M.S. Ponomarev; I.S. Savoshchenko, and others) stress the fact that onset of chronic gastritis and recurrence and exacerbations thereof are largely attributable to lack of self-discipline among healthy and sick individuals, failure to abide by the medical recommendations of the doctor, mainly with respect to diet and hygiene. This applies, in particular, to nonconformance with work and leisure rules, disrupted meal schedule, qualitative monotony of food, overeating, eating a cold lunch without fluids, consuming excessively cold and especially hot food, as well as coarse and highly seasoned food, etc. Abuse of alcohol and smoking also plays a part.

Article by G.A. Ivanova, Central Scientific Research Institute for Health Education, USSR Ministry of Health, Moscow, Sovetskoye Zdravookhraneniye, Russian, No 10, 1972, submitted 27 January 1977, pp 43-47

UDC: 616.31-002.2-086:613.374

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Microelectronics

USSR

UDC 621.382

VERGUNAS, F. I., Doctor of Physical and Mathematical Sciences, ~~IVANOVA, G. A.~~
ABDIYEV, S., REPIN, A. V., VARFOLOMEYEV, I. N., Engineers

"Some Possibilities of Using Optoelectronic Switches in Microelectronic Circuits"

Moscow, Pribory i Sistemy Upravleniya, No 2, 1972, pp 45-46

Abstract: The OEK-2 optoelectronic converters -- a film photoresistor and gallium phosphide light diode couple mounted in the TO-5 housing -- were described previously [F. I. Vergunas, et al., Pribory i sistemy upravleniya, No 1, 1972]. In the present article a study is made of the possibilities of using OEK-2 in phase automatic frequency control circuits, in automatic phase control systems and as a controllable divider. The operating characteristics of the OEK-2 in the various applications are described. Some advantages of the three mentioned circuits using the OEK-2 include the following, respectively: 1) the filter band width switching circuit using the OEK-2 is very simple, does not require regulation and has an intake of no more than 10-20 milliwatts; 2) absence of a galvanic coupling between the control voltage from the discriminator and the signal the phase of which must be reversed in the automatic phase control system; 3) application of a photoresistor as the controllable element permits a divider to be obtained which is linear in a broad range of operating voltages
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USSR

VERGUNAS, F. I., et al., Pribory i Sistemy Upravleniya, No 2, 1972, pp 45-46

-- from units of microvolts to several volts, the control signal is quite small, and electrical decoupling is insured between the controlling and controlled signals.

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UDC 632.95.8

USSR

ROSLAVTSEVA, S. A., IVANOVA, G. B., Candidates of Biological Sciences, and
POLYAKOVA, V. K., VNII (All-Union Scientific Studies Institute of Chemical
Compounds for the Protection of Plants)

"Resistance of Houseflies to Benzophosphate"

Moscow, Khimiya v Sel'skom Khozyaystve, No 7, Vol 11, 1973, pp 38-40

Abstract: Flies were bred for resistance to benzophosphate (BP) by treating successive generations with increasing concentrations of BP from about 0.1% to 3%. The experiment was carried out for eight generations. Untreated flies showed a LD₅₀ of about 1 microgram/g BP. The LD₅₀ of the treated flies increased rapidly to 16 by the fifth generation, 150 by the twentieth, 600 by the fiftieth, and 2063 by the seventy-second generation. The resistance indicator increased from 9.1 to 1928 for the fifth, and the seventy-second generation respectively. The resistance is lost in succeeding generations if treatment is discontinued. The LD₅₀ and resistance indicator are shown for treated and untreated populations for a large number of other aliphatic, aromatic, heterocyclic, carbamide, formamide, and chlorinated insecticides. The compounds dimetoatom, fitiosom, dibromom, fenitrothionom, 1/2

USSR

ROSLAVTSEVA, S. A., et al., Khimiya v Sel'skom Khozyaystne, No 7, Vol 11, 1973, pp 38-40

bromofas, DDVF, and fentinom (all transliterated) are recommended and the compounds abata, kumafos, dursbana, diazinon, tritona, puelin and valekson are not recommended as substitutes for benzophosphate.

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Pesticides

USSR

UDC 619:614.449.57

ROSLAVTSEVA, S. A., IVANOVA, G. B., and POLYAKOVA, V. K., All-Union Scientific Research Institute for Chemical Protection of Plants

"Insecticides in the Control of Houseflies Resistant to Chlorophos"

Moscow, Veterinariya, No 8, 1973, p 35

Abstract: Studies were conducted on flies resistant (R_{KH}) and susceptible (S) to chlorophos to determine their response to a series of aliphatic, aromatic, and heterocyclic derivatives of phosphoric acid insecticides, and derivatives of carbamic acid. On the basis of LD_{50} for strain R_{KH} , the most effective insecticides were DDVF, formotion, fitios, dibrom, fention, dioksikarb, and particularly gardon (high larvicidal activity and low toxicity for homoiothermal animals).

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USSR

UDC 632.95.022.8

~~IVANOVA, G. B.~~, ROSLAVTSEVA, S. A., POLYAKOVA, V. K., and YEVTYUSHINA, T. M., All-Union Scientific Research Institute of Chemicals Used for Plant Protection

"Development of the Resistance of Houseflies to Phthalophos"

Moscow, Khimiya v Sel'skom Khozyaystve, No 9, 1971, pp 40-42

Abstract: It was previously established [S. A. Roslavitseva, et al., Med. parazitol., No 1, 1970] that after selection of a strain of houseflies resistant to diazinone by methylethylthiophos, the tolerance level to the latter did not change (X 4-5). After selection by phthalophos for 14 generations, the resistance of the flies to phthalophos increased by 9 times with an invariant level of resistance to methylethylthiophos. Thus, a study was made of the rapid development of the resistance to phthalophos by investigating the reaction of a laboratory strain of flies not subjected to treatment by insecticides to the compounds. Phthalophos [0, 0-dimethyl-(N-phthaloiimidomethyl)-diphiophosphate] dissolved in acetone was used in the experiment.

On selection of each generation of mature flies from a sensitive laboratory population by phthalophos a rapid increase in resistance occurred: in 1/2

USSR

IVANOVA, G. B., et al., Khimiya v Sel'skom Khozyaystve, No 9, 1971, pp 40-42

generation F₈, the resistance to the insecticide increased by 10 times, in generation F₁₂, by 20 times and in generation F₂₇, by more than 1,000 times. In the presence of an increase in resistance to phthalophos by 20 times, a high cross resistance to ruelene (x -- 34) and koral (x -- 12) occurred. In the presence of 1,000-fold resistance of the imaginal stage, the larvae of the flies of the resistant race were more resistant than the larvae of the sensitive race by no more than 2 or 3 times. The vitality and sensitivity of the eggs of flies from the strains R_{phth} and S to phthalophos were identical. At the beginning of selection by phthalophos, the egg production of the flies increased. Later, in generation F₂₅, the egg production of the highly resistant flies of the R_{phth} strain differed little from the egg production of the flies of the sensitive strain S.

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USSR

UDC 632.951

ROSLAVTSEVA, S. A., IVANOVA, G. B., YEVTYUSHINA, T. M., and POLYAKOVA, V. K.,
All Union Scientific Research Institute of Chemical Plant Protectants

"The Cross Resistance of Three Races of House Flies Resistant to Organophosphorus Preparations"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 8, Aug 70, pp 39-41

Abstract: The authors studied the possibility of developing cross resistance by selecting resistant flies with various organophosphorus preparations, as well as the dependence of the induced resistance on the selecting agent. The experiments were performed on the following races of flies: R_p , obtained from susceptible race S (All Union Scientific Research Institute of Chemical Plant Protectants) selected with phthalophos; R_m , derived from race S by selection with malathion (carbophos); R_a , obtained by selection with methylethylthiophos of a resistant race treated at first with Diazinon. Active ingredients of chlorophos, Rogor, methylacetophos, phthalophos, Phosalone, Co-Ral, DDVP, phoxime, and the commercial products Ruelene, Sumithion and carbophos, Baytex and bromophos were used for the study. The following preparations are recommended on the basis of resistance development and induction data for the

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USSR

ROSLAVTSEVA, S. A., et al, Khimiya v Sel'skom Khozyaystve, Vol 8, No 8, Aug 70, pp 39-41

eradication of flies in livestock houses: Rogor (most toxic for susceptible and resistant races), DDVP, chlorophos, Fitios, Sumithion and malathion (resistance to malathion develops very slowly). The use of phthalophos against flies is not recommended. Nor should livestock housing be treated with phthalophos, Phosalone (especially if malathion was used previously for a long time against flies), Co-Ral or Ruelene.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--CHANGES IN THE RESISTANCE OF FLIES TO METHYLETHYLTHIOPHOS AND
PHTHALOPHOS IN LABORATORY EXPERIMENTS -U-
AUTHOR-(03)-ROSLAVTSEVA, S.A., POLYAKOVA, V.K., IVANOVA, G.B.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL
39, NR 3, PP 345-349
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC PHOSPHOROUS INSECTICIDE, INSECTA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0235

STEP NO--UR/0358/70/039/003/0345/0349

CIRC ACCESSION NO--AP0123997

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123997

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. CROSS RESISTANCE, REVERSION AND CHANGES IN RESISTANCE DEPENDING ON THE CHANGE OF THE SELECTING AGENT (METHYLETHYLTHIOPHOS FOLLOWED BY PHTHALOPHOS, O,O DIMETHYL S PHTHALIMIDCMETHYLDITHIOPHOSPHATE) WAS STUDIED IN A RACE OF HOUSE FLIES (OBTAINED FROM ENGLAND) RESISTANT TO DIAZINONE. IT WAS MOST RESISTANT TO PHENITROTHIONE (THE LEVEL OF RESISTANCE 7,5) AND METHYLETHYLHIOPHOSE 40. AFTER 26 SELECTIONS WITH METHYLETHYLTHIOPHOSE THE LEVEL OF RESISTANCE TO IT WAS REDUCED TO 4-5, WHILE REPEATED SELECTIONS DID NOT CHANGE IT. AFTER SELECTIVE TREATMENT OF THIS CULTURE WITH PHTHALAPHOSE IN 7 GENERATIONS RESISTANCE TO THE LATTER INCREASED MORE THAN 3 FOLD, WHILE TO METHYLETHYLTHIOPHOSE IT REMAINED AT THE FORMER LEVEL. FACILITY: VSESOUZNY NAUCHNO-ISSLED. INSTITUT KHIMICHESKIKH SREDSTV ZASHCHITY RASTENIY, MOSKVA.

UNCLASSIFIED

IVANOVA, G. K.

ARMY MATERIEL COMMAND
U.S. ARMY
FOREIGN SCIENCE AND TECHNOLOGY CENTER



INTERVIEWED SUBJECTS INTERVIEW WITH
HIGH READING POWER

by

S. M. Gorskly, V. A. Zorov, G. K. Ivanova

GRANDVIEW, ILLINOIS

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1/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF THE COMPOSITION OF LIMESTONES ON THE QUALITY OF MILK OF
LIME IN THE PRODUCTION OF MAGNESIUM OXIDE FROM SEA BRINE -U-
AUTHOR--(04)--GURCHINOVA, L.N., SAVENKOV, M.I., KIRICHENKO, T.P., IVANOVA,
G.M.
COUNTRY OF INFO--USSR
SOURCE--OGNEUPORY 1970, 35(2), 15-17
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--LIMESTONE, MAGNESIUM OXIDE, SEA WATER, BRINE, LIME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0880 STEP NO--UR/0131/70/035/002/0015/0017
CIRC ACCESSION NO--AP0118049
UNCLASSIFIED

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PROCESSING DATE--16OCT70

2/2 008

CIRC ACCESSION NO--AP0118049

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE POSSIBILITY WAS DETD. OF USING

LIMESTONES OF VARIOUS QUALITIES FOR PRODUCING MGO FROM BRINES. QUALITY

AND YIELD OF PURIFIED PRODUCT DEPEND PRIMARILY ON THE MINERAL AND CHEM.

COMPNS. OF THE LIMESTONES AND DEGREE OF CALCINATION. THE QUALITY OF

MILK OF LIME FROM GANGUE LOADED MATERIALS CAN BE INCREASED BY A 2 STAGE

TREATMENT OF THE MILK OF LIME THROUGH HYDROCYCLONES AFTER INITIAL SAND

REMOVAL.

FACILITY: UKR. NAUCH.-ISSLED. INST. OGNEVPOR. KHARKOV,

USSR.

UNCLASSIFIED

1/2 015
UNCLASSIFIED
TITLE--EFFECT OF THE MAGNETIC TREATMENT OF WATER ON ION EXCHANGE -U-
PROCESSING DATE--20NOV70
AUTHOR--(02)-IVANOVA, G.M., NAZIN, A.G.
COUNTRY OF INFO--USSR
SOURCE--ELEK. STA. 1970, 41(2), 41-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ABSORPTION, ANION EXCHANGE RESIN, SORPTION, MAGNETIC FIELD
EFFECT, WATER/(U)AV17 ANION EXCHANGE RESIN, (U)IRA410 ANION EXCHANGE
RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REL/FRAME--3006/1292
STEP NO--UR/0104/70/041/002/0041/0043
CIRC ACCESSION NO--AP0124966
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134906

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. LAB. INVESTIGATIONS (VERIFIED UNDER INDUSTRIAL CONDITIONS) WERE MADE BY USING SULFOCOAL (CATION EXCHANGER PREPD. TREATING COAL WITH FUMING SULFURIC ACID) AND ANION EXCHANGERS AV-17 AND IRA-410. INCREASE IN THE ADSORPTION CAPACITY OF THE ION EXCHANGER DURING LAB. TESTS WAS 4-8PERCENT FOR FIELDS OF H EQUALS 1000 GE, AND 19-26PERCENT FOR H EQUALS 3000 GE. THIS INCREASE WAS NOT ONLY RELATED TO A CHANGE IN THE SOLN. PROPERTY BUT ALSO TO CHANGES IN THE STRUCTURE OF ION EXCHANGER. TESTS CONDUCTED ON A PILOT PLANT SCALE VERIFIED THE LAB. DATA. IN CONTROL EXPTS. (WITHOUT PREVIOUS MAGNETIZATION) FE ADSORPTION CAPACITY WAS 4.69 G,EQUIV.-M PRIME3P IN THE 1ST CYCLES WITH INITIAL MAGNETIZATION IT DECREASED TO 2.11 G,EQUIV.-M PRIME3. PROBABLY, A PROTECTING FILM FORMED GRADUALLY ON THE NONPROTECTED PARTS OF THE FILTER ALONG WITH A SPECIFIC FILTRATION FILM.

UNCLASSIFIED

USSR

UDC 678-06. = 419.8:677.521 7.01:53

ROMANENKOV, I. G., and IVANOVA, G. N.

"Glasstextolite Strength During the Action of Long lasting Loads"

Moscow, Plasticheskiye Massy, No 10, 1971, pp 32-33

Abstract: The changes in transitory tensile strength (σ_{tr}) of glasstextolite are analyzed as functions of the duration of an action and of the magnitude of the applied static stretching tension (σ_{st}). A textolite prepared from a modified phenolic resin VFB-1 and fiberglass T₁ was used as the test object. It has been established that during the action of long lasting static tensions which do not exceed the longitudinal strength of the material, the phenolic glasstextolite undergoes a strengthening process. The strengthening effect is due to the development of relaxation, orientational processes in the material. The degree of such strengthening depends on the duration of the action and the magnitude of the load applied. Maximum strengthening is observed when a tension is applied which corresponds to 0.3 of the transitory strength of the glasstextolite.

1/1

USSR

UDC 612.453.014.42(575.4)

KHAZANOV, K. K., ~~IVANOVA, G. M.~~, and KRAVETS, V. A., Laboratory of Endocrinology
Institute of Human Morphology, Academy of Medical Sciences USSR and Biochemistry
Laboratory, Moscow Oblast State Scientific Research Clinical Institute imeni
N. F. Vladimirskiy

"The Effect of Arid Zone Conditions (Turkmenia) on the Functional State of the
Adrenal Cortex of Healthy Persons"

Moscow, Problemy Endokrinologii, Vol 16, No 4, Jul/Aug 70, pp 40-44

Abstract: Urinary excretion of 17 hydroxycorticosteroids and 17-ketosteroids
was determined in 10 healthy persons who had resided in areas of moderate climate
and were called to military service in the southern region of Turkmenia. Ten ad-
ditional healthy subjects who had lived in the middle zone and were called to
military service in their native area served as controls. No significant differ-
ences were noted between the two groups in the basal level of 17 hydroxycorti-
costeroid or 17 ketosteroid excretion. In persons living in hot climate for 3, 6,
and 15 months however, a statistically significant reduction of 17-hydroxycorti-
costeroid and 17-ketosteroid excretion was noted in response to the administration
of ACTH.

1/1

USSR

UDC: 621.318.435.3:621.375.4(088.8)

IVANOVA, G. P.

"A Transistorized Magnetic Amplifier"

USSR Author's Certificate No 258391, filed 30 Dec 68, published 19 May 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D152 P)

Translation: The proposed amplifier, which is based on two cores with working, control and auxiliary windings, has a commutating transistor connected in series with the load and a DC power supply. To simplify the device, the working windings are connected in series with the commutating transistor, diodes and an AC power supply, and the auxiliary windings are connected through diode-resistor circuits to the base of the transistor and to the AC power supply.

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- 6 -

USSR

UDC 621.318.453.3

IVANOVA, G. P.

"Magnetic Transistorized Amplifier"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 51. Author Certificate No 258391 Class 21a2.

Abstract: This author certificate describes a transistorized magnetic amplifier made on two cores with operating control and complementary windings containing a switching transistor, connected in series with a load and a d-c source. With the purpose of simplification, the operating windings are connected in series with the transistor, diodes and the a-c source, the complementary windings are connected to the transistor base and the a-c source through the diode resistance circuits.

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Acc. Nr.: AA0040449

I
Ref. Code: UR 0482

USSR

UDC 621.318.453.3 JPRS 50248

IVANOVA, G. P.

"Magnetic Transistorized Amplifier"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 51. Author Certificate No 258391 Class 2la2.

Abstract: This author certificate describes a transistorized magnetic amplifier made on two cores with operating control and complementary windings containing a switching transistor, connected in series with a load and a d-c source. With the purpose of simplification, the operating windings are connected in series with the transistor, diodes and the a-c source, the complementary windings are connected to the transistor base and the a-c source through the diode resistance circuits.

Reel/Frame
19741941

USSR

NISEVICH, N. I., KAZARIN, V. S., GASPARYAN, M. O., and IVANOVA, G. M.

"Comparative Analysis of Some Serologic Reactions in the Diagnosis of Infectious Mononucleosis in Children"

Vopr. Okhrany Materinstva i Detstva (Problems of the Protection of Motherhood and Childhood), 1973, No 7, pp 35-39 (from RZh - Biologicheskaya Khimiya, No 22, Nov 73, Abstract No 1706)

Translation: A comparative analysis has been carried out of the diagnostic value and specificity of 6 serologic tests: reactions of Paul-Bunnell, Paul-Bunnell-Davidson, Tomchik, Lovrik, hemolysis of beef erythrocytes, and agglutination of horse erythrocytes. All of these reactions were tested concurrently on the same patient in the dynamics of the disease. In all 108 patients with infectious mononucleosis and 100 patients with other problems (control group) were studied. It has been established that the best diagnostic value for infectious mononucleosis is obtained from the reactions of Paul-Bunnell-Davidson (92.5%) and from the Tomchik reaction (90.7%). The reaction of the agglutination of horse erythrocytes is recommended as an express diagnostic method.

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USSR

UDC: 669.24.538.248

YERMAKOV, A. Ye., IVANOV, O. A., SHUR, Ya. S., GRECHISHKIN, R. M., IVANOVA, G. V., Institute of Physics of Metals, UNTs, Academy of Sciences of the USSR, Ural State University imeni V. I. Lenin

"Magnetic Properties of Single-Crystal Nickel Powders"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 3, Mar 72, pp 558-563

Abstract: The authors investigate the magnetic properties of nickel single crystal spherical particles as a function of diameter from 22 to 320 nm. It is shown that as particle size increases, the coercive force and residual induction first increase, then decrease after reaching a maximum. The magnetic structure goes through three stages with an increase in particle size from 22 to 320 nm: superparamagnetic, monodomain and polydomain. The authors thank M. Ya. GEN for procedural guidance in making the particles.

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